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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/708,198	02/16/2004	Chiao-Ju Lin	10767-US-PA	2197

31561 7590 12/26/2008  
JIANQ CHYUN INTELLECTUAL PROPERTY OFFICE  
7 FLOOR-1, NO. 100  
ROOSEVELT ROAD, SECTION 2  
TAIPEI, 100  
TAIWAN

EXAMINER
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PIZIALI, JEFFREY J

ART UNIT	PAPER NUMBER
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2629

NOTIFICATION DATE	DELIVERY MODE
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12/26/2008

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

USA@JCIPGROUP.COM.TW  
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<b>Office Action Summary</b>	<b>Application No.</b> 10/708,198	<b>Applicant(s)</b> LIN, CHIAO-JU	
	<b>Examiner</b> Jeff Piziali	<b>Art Unit</b> 2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 02 September 2008 and 06 May 2008.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1 and 7-16 is/are pending in the application.
- 4a) Of the above claim(s) 8 and 12-14 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_\_ is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☒ Claim(s) 1,7,9-11,15 and 16 are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 August 2007 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Priority***

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### ***Drawings***

2. The drawings have not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the figures.

### ***Specification***

3. The disclosure is objected to because of the following informalities:

The term, "*descried*" should be corrected, for example to, "*described*" (e.g., see Paragraphs 18 and 34, Line 1).

Appropriate correction is required.

4. The specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

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***Election/Restrictions***

5. Applicant's ***election of Group I (claims 1, 7, 9-11, 15, and 16)*** in the reply filed on 2 September 2008 is acknowledged and appreciated.

Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

6. ***Claims 12-14 are withdrawn*** from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 2 September 2008.

7. ***Claim 8 was earlier withdrawn*** from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected species, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 8 February 2007.

8. This application contains claim 8 drawn to a species nonelected with traverse in the reply filed on 8 February 2007. A complete reply to the final rejection must include cancellation of nonelected claim(s) or other appropriate action (37 CFR 1.144) See MPEP § 821.01.

***Claim Rejections - 35 USC § 112***

9. The following is a quotation of the second paragraph of 35 U.S.C. 112:

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The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

10. Claims 1, 7, 9-11, 15, and 16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

11. Claim 1 provides for "*a driving circuit used for a current-driven active matrix organic light emitting diode*" (line 1), but, since the claim does not set forth any steps involved in the method/process, it is unclear what method/process applicant is intending to encompass. A claim is indefinite where it merely recites a use without any active, positive steps delimiting how this use is actually practiced.

Claim 1 is rejected under 35 U.S.C. 101 because the claimed recitation of a use, without setting forth any steps involved in the process, results in an improper definition of a process, i.e., results in a claim which is not a proper process claim under 35 U.S.C. 101. See for example *Ex parte Dunki*, 153 USPQ 678 (Bd.App. 1967) and *Clinical Products, Ltd. v. Brenner*, 255 F. Supp. 131, 149 USPQ 475 (D.D.C. 1966).

12. Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01.

An omitted structural cooperative relationship results from the claimed subject matter: "*a current-driven active matrix organic light emitting diode*" (line 2) and "*an organic light emitting diode*" (line 11).

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For example: It would be unclear to an artisan whether the limitations are intended to refer to identical or distinct "*organic light emitting diodes*."

An omitted structural cooperative relationship results from the claimed subject matter: "*a driving circuit used for a current-driven active matrix organic light emitting diode (AMOLED), comprising...*" (line 1).

For example: It would be unclear to an artisan whether the subject of "*comprising*" is intended to be the "*diode*" or rather the "*driving circuit*."

13. Claim 1 is rejected because it includes what appears to be a claim term abbreviation enclosed within parentheses: "*(AMOLED)*" (line 2) and "*(OLED)*" (line 11).

Only reference characters corresponding to elements recited in the detailed description of the drawings and used in conjunction with the recitation of the same element or group of elements in the claims should be enclosed within parentheses so as to avoid confusion with other numbers or characters which may appear in the claims. See MPEP § 608.01(m). For example:

It would be unclear to an artisan whether "*(AMOLED)*" / "*(OLED)*" is intended to serve as an abbreviation for "*active matrix organic light emitting diode*" / "*organic light emitting diode*"; or rather intended to serve as an abbreviation for something else entirely; or rather intended to serve as a reference character corresponding to one or more elements recited in the detailed description of the drawings.

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14. Claim 1 recites the limitation "***the OLED***" (line 13). There is insufficient antecedent basis for this limitation in the claim.

For example: It would be unclear to an artisan whether this limitation is intended to refer to the "***current-driven active matrix organic light emitting diode***" (line 2) and/or the "***organic light emitting diode***" (line 11).

15. Claim 7 recites the limitation "***the first***" (line 1). There is insufficient antecedent basis for this limitation in the claim.

16. Claim 7 recites the limitation "***the second***" (line 2). There is insufficient antecedent basis for this limitation in the claim.

17. Claim 7 recites the limitation "***the third switches***" (line 2). There is insufficient antecedent basis for this limitation in the claim.

18. Claim 7 recites the limitation "***P-type***" (line 3). The addition of the word "***type***" to an otherwise definite expression extends the scope of the expression so as to render it indefinite. Ex parte Copenhaver, 109 USPQ 118 (Bd. App. 1955). It would be unclear to one having ordinary skill in the art what "***type***" is intended to convey. See MPEP 2173.05(b).

19. Claim 10 is indefinite where it specifies "***pre-charged***" (in line 2), since "***pre-charged***," according to applicant's definition, merely means "***charged beforehand***." For example, see

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Joseph E. Seagram & Sons, Inc. V. Marzall, Comr. Pats., 84 USPQ 180 (Court of Appeals, District of Columbia).

20. The term "*substantially equal*" in claim 10 (line 2) is a relative term which renders the claim indefinite. The term "*substantially equal*" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

For example: It would be unclear to an artisan precisely how close two voltages must be before they would be considered "*substantially equal*" to one another.

21. The remaining claims are rejected under 35 U.S.C. 112, second paragraph, as being dependent upon rejected base claims.

22. The claims are rejected under 35 U.S.C. 112, second paragraph, as being indefinite.

As a courtesy to the Applicant, the examiner has attempted to also make rejections over prior art -- based on the examiner's best guess interpretations of the invention that the Applicant is intending to claim.

However, the indefinite nature of the claimed subject matter naturally hinders the Office's ability to search and examine the application.

Any instantly distinguishing features and subject matter that the Applicant considers to be absent from the cited prior art is more than likely a result of the indefinite nature of the claims.



The Applicant is respectfully requested to correct the indefinite nature of the claims, which should going forward result in a more precise search and examination.

***Claim Rejections - 35 USC § 102***

23. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

24. Claims 1, 10, and 11 are rejected under 35 U.S.C. 102(b) as being anticipated by ***Yumoto (WO/2001/006484 A)***.

[Please note: For purposes of this office action, ***Yumoto (US 6,859,193 B1)*** is relied upon as the English language translation of ***Yumoto (WO/2001/006484 A)***.]

Regarding claim 1, ***Yumoto*** discloses a driving circuit [*e.g., Fig. 8*]  
used for a current-driven active matrix organic light emitting diode [*e.g., Fig. 8; OLED*],  
comprising:  
a pixel [*e.g., Fig. 8*]  
connected to a current source [*e.g., Fig. 8; CS*],  
the current source being used to charge or discharge a capacitor [*e.g., Fig. 8; C*]  
connected to a gate of a driving thin film transistor [*e.g., Fig. 8; TFT2b*], and  
a gray scale of the pixel is determined by a magnitude of a current [*e.g., Fig. 8; Iw*]  
provided by the current source; and

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a pre-charge switch [*e.g.*, *Fig. 8; TFT4b*]  
directly connected to the gate of the driving thin film transistor and  
a driving power source [*e.g.*, *Fig. 8; at TFT4a*],  
for controlling the driving power source to pre-charge the capacitor before the current  
source charges or discharges the capacitor, wherein  
the pixel comprises:  
an organic light emitting diode [*e.g.*, *Fig. 8; OLED*]  
having an anode and a cathode,  
the cathode being connected to a first power source [*e.g.*, *Fig. 8; Vdd*];  
a first switch [*e.g.*, *Fig. 8; TFT2a*]  
with one end connected to the anode of the OLED and another end connected to a drain  
of the driving thin film transistor;  
a second switch [*e.g.*, *Fig. 8; TFT1*]  
with one end connected to the current source and another end connected to the drain of  
the driving thin film transistor; and  
a third switch [*e.g.*, *Fig. 8; TFT3*]  
with one end connected to the drain of the driving thin film transistor and another end  
connected to the gate of the driving thin film transistor and one end of the capacitor,  
the other end of the capacitor being connected to a second power source [*e.g.*, *Fig. 8;*  
*ground*] (*see the entire document, including Column 14, Lines 5-36*).

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Regarding claim 10, **Yumoto** discloses a pre-charged voltage level across the capacitor is substantially equal to a threshold voltage [ $V_{th}$ ] of the thin film transistor (*see the entire document, including Column 12, Line 28 - Column 13, Line 47*).

Regarding claim 11, **Yumoto** discloses the driving power source comprises two different voltage levels (*see the entire document, including Column 14, Lines 5-36 -- wherein TFT4a is switched on and off by scanB and TFT3 is switched on and off by scanA*).

### ***Claim Rejections - 35 USC § 103***

25. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

26. Claims 7, 9, 15, and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Yumoto (WO/2001/006484 A)**.

[Please note: For purposes of this office action, **Yumoto (US 6,859,193 B1)** is relied upon as the English language translation of **Yumoto (WO/2001/006484 A)**.]

Regarding claim 7, **Yumoto** discloses the third switch being a P-type thin film transistor [*e.g., Fig. 8; TFT3*].

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In the embodiment illustrated in Figure 8, **Yumoto** does not expressly disclose using a P-type thin film transistor as the first switch, the second switch, the driving thin film transistor, and the pre-charge switch.

However, in other embodiments, **Yumoto** discloses an N-type thin film transistor [*e.g.*, Fig. 26; TFT2] being substituted with a P-type thin film transistor (*see the entire document, including Column 24, Lines 8-34*).

Therefore, it would have been obvious to one having ordinary skill in the art to replace **Yumoto's** N-type TFTs with P-type TFTs, so as to make a simple well known transistor substitution, and to improve the constant current properties of the circuitry, while also suppressing leakage current.

Regarding claim 9, **Yumoto** does not expressly disclose a negative power source is used as the driving power source in the embodiment illustrated in Figure 8.

However, the embodiment illustrated in Figure 18 shows Vdd serving as a power source supplied to the data line (*see the entire document, including Column 20, Lines 26-36*).

Furthermore, the embodiment illustrated in Figure 26 shows Vdd serving as a negative power source (*see the entire document, including Column 24, Lines 8-37*).

Therefore, it would have been obvious to one having ordinary skill in the art to use a negative power source as **Yumoto's** driving power source, so as to make a simple well known power source substitution, and to improve the constant current properties of the circuitry, while also suppressing leakage current.

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Regarding claim 15, **Yumoto** discloses an embodiment wherein the first power source is negative polarity [*e.g., Fig. 26; negative potential Vdd*] (*see the entire document, including Column 24, Lines 8-37*).

Therefore, it would have been obvious to one having ordinary skill in the art to use a negative power source as **Yumoto's** first power source, so as to make a simple well known power source substitution, and to improve the constant current properties of the circuitry, while also suppressing leakage current.

Regarding claim 16, **Yumoto** discloses that "*any constant potential*" may serve as ground (*see the entire document, including Column 5, Lines 34-36*).

Therefore, it would have been obvious to one having ordinary skill in the art to use a positive power source as **Yumoto's** second power source, so as to make a simple well known power source substitution, and to improve the constant current properties of the circuitry, while also suppressing leakage current.

### ***Response to Arguments***

27. Applicant's arguments filed 6 May 2008 have been fully considered but they are not persuasive.

The Applicant acknowledges that one type of "*connection*" is an "*indirect connection*" (between intervening elements -- see Page 12 of the reply filed on 6 May 2008).

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Applicant's arguments with respect to claims 1, 7, 9-11, 15, and 16 have been considered but are moot in view of the new grounds of (and reasons for) rejection.

By such reasoning, rejection of the claims is deemed necessary, proper, and thereby maintained at this time.

### ***Conclusion***

28. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeff Piziali whose telephone number is (571) 272-7678. The examiner can normally be reached on Monday - Friday (6:30AM - 3PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chanh Nguyen can be reached on (571) 272-7772. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jeff Piziali/  
Primary Examiner, Art Unit 2629  
17 December 2008